CLAIMS

What is claimed is:

1. A method for gang scheduling, the method comprising:

a first member of a gang recognizing an event, the gang including the first

5   member and a plurality of other members;

the first member sending a multicast dispatch message to the plurality of other

members, the multicast dispatch message including an indication of a gang priority level;

the plurality of other members receiving the multicast dispatch message;

each particular member of the plurality of other members raising a priority level of

10   a process associated with said each particular member to that corresponding to the gang

priority level; and

said each particular member of the plurality of members performing an operation

associated with the multicast dispatch message at the gang priority level.

2. The method of claim 1, wherein said performing the operation by said each

15   particular member includes generating one or more results; and comprising said each

particular member communicating said one or more results to the first member.

3. The method of claim 2, wherein said operation includes collecting one or more

statistics values and said one or more results includes said one or more statistics values.

4. The method of claim 1, wherein the multicast dispatch message includes a set

20   of routing updates, and said operation includes updating a data structure with the set of

routing updates.

5. The method of claim 1, wherein the multicast dispatch message includes a fault

indication, and said operation includes updating configuration or routing information in

response to the fault indication.

6. The method of claim 1, wherein the event includes the detection of a fault, and the operation is a corrective measure associated with the fault.

7. The method of claim 1, comprising raising the priority level of the first member to the gang priority level before said sending the multicast dispatch message.

5   8. An apparatus for gang scheduling, the apparatus comprising:

means for maintaining gang membership of a scheduling gang, said gang membership including a plurality of other gang members;

means for dispatching and communicating gang dispatch messages to the plurality of other gang members, said gang dispatch messages including a scheduling priority

10   level;

means for receiving particular gang dispatch messages, said particular gang dispatch messages associated with a priority level; and

means for performing an operation corresponding to said particular gang dispatch message at the priority level.

15   9. The apparatus of claim 8, wherein said means for dispatching and communicating gang dispatch messages includes means for performing reliable group communication.

10. The apparatus of claim 9, wherein said means for reliable group communication includes means for acknowledging less than all of a series of gang

20   dispatch messages.

11. The apparatus of claim 9, wherein said means for reliable group communication includes means for performing immediate and delayed acknowledgement of received gang dispatch messages.

12. An apparatus comprising:

a first member of a gang; and

a plurality of other members of the gang;

wherein the first member is configured to recognize an event, and in response,

5 send a multicast dispatch message to the plurality of other members, the multicast

dispatch message including an indication of a gang priority level; and wherein the

plurality of other members are each configured to receive the multicast dispatch message,

to change a processing priority level to that corresponding to the gang priority level, and

to perform an operation associated with the multicast dispatch message at the gang

10 priority level.

13. The apparatus of claim 12, wherein said performing the operation includes

generating one or more results; and wherein said each of the plurality of other members is

configured to communicate said one or more results to the first member.

14. The apparatus of claim 13, wherein said operation includes collecting one or

15 more statistics values and said one or more results includes said one or more statistics

values.

15. The apparatus of claim 12, wherein the first member is configured to raise its

priority level to at least the gang priority level in response to recognizing the event and

before sending the multicast dispatch message.

20 16. The apparatus of claim 12, wherein each of the plurality of other members of

the gang are included on different line cards of a packet switching system.

17. The apparatus of claim 12, wherein the multicast dispatch message includes a

set of routing updates, and said operation includes updating a data structure with the set

of routing updates.

18. The apparatus of claim 12, wherein the multicast dispatch message includes a fault indication, and said operation includes updating configuration or routing information in response to the fault indication.

19. The apparatus of claim 12, wherein the event includes the detection of a fault, and the operation is a corrective measure associated with the fault.

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